

TAP 123- 1: Generating alternating current

Apparatus required:

Hand-driven generator (e.g. bicycle dynamo)

Large centre-zero demonstration voltmeter

Lamp

Oscilloscope (optional)

Procedure

Connect the output of the generator to the voltmeter. Turn the generator.

Show that the output from the generator alternates (positive and negative swings on the voltmeter).

Show that the frequency (and the peak value) of the output depend on the rate of turning.

Show that the output can light a lamp and that the lamp appears to stay on all the time if the generator is turned rapidly.

Turn off the CRO time base. Connect the CRO in place of the voltmeter. Observe the spot going up and down as you turn the generator.

Repeat, with the time base switched to a slow setting; you should see a (roughly) sinusoidal trace.